

**SYSTEM FOR EARLY PACKET STEERING AND FIFO-BASED
MANAGEMENT WITH PRIORITY BUFFER SUPPORT**

1. CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a Divisional of Serial Number 09/609,731, filed July 2, 2000, *now abandoned.*

BACKGROUND OF THE INVENTION

2. The Field Of The Invention

[0002] This invention relates generally to network data routing. More specifically, the present invention concentrates on improving two aspects of data routing. The first improvement is utilizing a data packet steering mechanism that parses elements of the packet header in parallel and in advance of the body of the packet, thereby increasing efficiency and reducing latency and processor overhead. The second and related improvement is a FIFO-based packet memory management system that provides greater flexibility and control over network packet transmission.

3. The State Of The Art.

[0003] The state of the art in high speed data access on computer networks has in large part been driven by exponential growth in the Internet and e-commerce. Furthermore, as computers become more powerful, applications are always being developed which take advantage of any increase in computer performance. Often, these applications utilize networks, both local and global.

[0004] It is becoming increasingly important to keep pace with the increased demands for network services by the general public. This can be accomplished by removing the bottlenecks that inhibit data transfer across computer networks because the thirst for increased bandwidth is ever present. Internet users are becoming ubiquitous as home users and businesses tap into the resources of the

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